

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 17 July 2003 (17.07.2003)

PCT

(10) International Publication Number WO 03/058067 A1

(51) International Patent Classification⁷: A61B 5/12

F04B 17/00,

- (21) International Application Number: PCT/DK03/00011
- (22) International Filing Date: 9 January 2003 (09.01.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

PA 2002 00038 10 January 2002 (10.01.2002) D

- (71) Applicant (for all designated States except US): INTER-ACOUSTICS A/S [DK/DK]; Drejervænget 8, DK-Assens (DK).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): RASMUSSEN, Steen, Barbrand [DK/DK]; Birkeholmvej 1, DK-3540 Lynge (DK).
- (74) Agent: CHRISTENSEN, Mikael, T.; Oticon A/S, Strandvejen 58, DK-2900 Hellerup (DK).

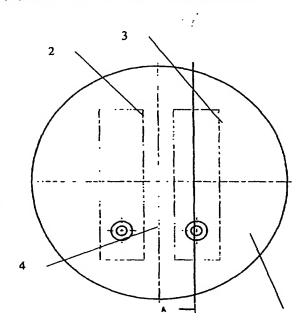
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PIEZO ELECTRIC PUMP AND DEVICE WITH SUCH PUMP



(57) Abstract: The invention relates to a measuring device for measuring in an ear canal, the device comprising a probe for insertion into an ear canal and having an opening for letting air in to and out of the ear canal the device further comprising a pump for providing a pressure above a surrounding atmospheric pressure or below the surrounding atmospheric pressure, the pump comprising a housing with openings for inlet and/or outlet, where within the housing a piston element having piezo electric properties is disposed, where one opening in the pump is operatively connected to the opening in the probe.

WO 03/058067 A1